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EXAMINER	
LILLING, HERBERT J	

ART UNIT	PAPER NUMBER
1657	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,824	RAMBACH ET AL.	
	Examiner	Art Unit	
	HERBERT J. LILLING	1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-98* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-98* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. In view of the Granted Petition on January 30, Claims 17-98 have been examined and that this Office Action has not been made Final.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention drawn to the following statement in claims 17 and 37 and their dependent claims:

"an antibiotic added to the medium before the medium gels";

which new matter is not supported in the instant specification.

3. The following rejections are based on recent Precedential Board Decision: *Ex parte* KENICHI MIYAZAKI Appeal 2007-3300 Decided: Nov 19, 2008

> "The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. SafetyTravel Chairs, Inc.,* 806 F.2d 1565, 1576 (Fed. Cir. 1986).

PRINCIPLES OF LAW

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

ANALYSIS

Rejection of claims.. under 35 U.S.C. § 112, second Paragraph:

The Federal Circuit has held in post-issuance patent infringement cases that the definiteness requirement "does not compel absolute clarity" and "[o]nly claims 'not amenable to construction' or 'insolubly ambiguous' are indefinite" Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations omitted). See also StarScientific, Inc. v. R.J. Reynolds Tobacco Co., Appeal No. 07-1448, slip. op. at 22 (Fed. Cir.August 25, 2008) ("A claim term is not indefinite just because 'it poses a difficult issue of claim construction,'") (quoting Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375 (Fed. Cir. 2001)). The Federal Circuit has noted that such a high standard of ambiguity for finding indefiniteness is due to the statutory presumption of patent validity. Exxon Research, 265 F.3d at 1375 ("By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity.") See also Modine Mfg. Co. v. U.S. Int'l Trade Comm'n, 75 F.3d 1545, 1557 (Fed. Cir. 1996) (rejecting indefiniteness argument after construing claims; stating that "when claims are amenable to more than one construction, they should when reasonably possible be interpreted to preserve their validity"); and Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1581 (Fed. Cir. 1996) (court chose the narrower of two equally plausible claim constructions in order to avoid invalidating the claims). This rule of reading claims narrowly in view of ambiguity runs counter to the USPTO's broader standard for claim construction during prosecution. In particular, unlike in post-issuance claim construction, the USPTO gives pending claims "their broadest reasonable interpretation consistent with the specification" and "in light of the specification as it would be interpreted by one of ordinary skill in the art." In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004). This broader claim construction standard is justified because, during prosecution, the applicant has the opportunity to amend the claims, and the Federal Circuit has held that an applicant has the opportunity and the obligation to define his or her invention precisely during proceedings before the USPTO. See In re Morris, 127 F.3d 1048, 1056-57 (Fed. Cir. 1997) (35 U.S.C. 112, second paragraph, places the burden of precise claim drafting on the applicant); In re Zletz, 893 F.2d 319, 322 (Fed. Cir. 1989) (manner of claim interpretation that is used by courts in litigation is not the manner of claim interpretation that is applicable during prosecution of a pending application before the USPTO).

As set forth in the MPEP:
USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). In re Prater, 415 F.2d 1393, 1404-05 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.").

The following has been emphasized that **this Primary Examiner** is following and this Decision has been upheld at the Board of Appeals:

MPEP § 2106 (II) (Parallel citations omitted). As such, we employ a lower threshold of ambiguity when reviewing a pending claim for indefiniteness than those used by post-issuance reviewing courts. In particular, rather than requiring that the claims are insolubly ambiguous, we hold that if a claim is amenable to two or more plausible claim constructions, the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim unpatentable under 35 U.S.C. § 112, second paragraph, as indefinite.

The USPTO, as the sole agency vested with the authority to grant exclusionary rights to inventors for patentable inventions, has a duty to guard the public against patents of ambiguous and vague

> scope. Such patents exact a cost on society due to their ambiguity that is not commensurate with the benefit that the public gains from disclosure of the invention. The USPTO is justified in using a lower threshold showing of ambiguity to support a finding of indefiniteness under 35 U.S.C. § 112, second paragraph, because the applicant has an opportunity and a duty to amend the claims during prosecution to more clearly and precisely define the metes and bounds of the claimed invention and to more clearly and precisely put the public on notice of the scope of the patent.
> As the Federal Circuit recently stated in Halliburton Energy Servs.:
> When a claim limitation is defined in purely functional terms, the task of determining whether that limitation is sufficiently definite is a difficult one that is highly dependent on context (e.g., the disclosure in the specification and the knowledge of a person of ordinary skill in the relevant art area). We note that the patent drafter is in the best position to resolve the ambiguity in the patent claims, and it is highly desirable that patent examiners demand that applicants do so in appropriate circumstances so that the patent can be amended during prosecution rather than attempting to resolve the ambiguity in litigation.
> Halliburton Energy Servs. v. M-ILLC 514 F.3d 1244, 1255 (Fed. Cir. 2008)"

The claimed subject matter should be rejected and "amended during prosecution rather than attemption to resolve the ambiguity in litigation."; as noted above as well as the following outlined specific points outlined :

Because claims delineate the patentee's right to exclude, the patent statute requires that the scope of the claims be sufficiently definite to inform the public of the bounds of the protected invention, i.e., what subject matter is covered by the exclusive rights of the patent. Otherwise, competitors cannot avoid infringement, defeating the public notice function of patent claims.

Nevertheless, this standard is met where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area.

where a claim is ambiguous as to its scope we have adopted a narrowing construction when doing so would still serve the notice function of the claims. See Athletic Alternatives, 73 F.3d at 1581 ("Where there is an equal choice between a broader and a narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having the

narrower meaning, we consider the notice function of the claim to be best served by adopting the narrower meaning."). ..

The decision of the Examiner to reject claims 1-6, 13, and 16-18 is affirmed. The decision of the Examiner to reject claims 15, 26, and 31 is reversed *pro forma*. **We enter a new ground of rejection of claims 13, 15-18, 26, and 31 under 35 U.S.C. § 112, second paragraph and of claims 15, 26, and 31 under 35 U.S.C. § 112, first paragraph.**

The claimed subject matter in light of the specification has been considered various terms or expression as noted below are vague and indefinite which renders the claims unpatentable under the guidelines set forth in **Precedential** Decision noted above.

The language of the claims must make it clear what subject matter the claims encompass to adequately delineate their "metes and bounds". The courts have also indicated that before claimed subject matter can properly be compared to the prior art, it is essential to know what the claims do in fact cover. **Claims 17-98** fail to comply with the above and are unpatentable under 35 USC 112 second paragraph.

It is noted that Attorney telephoned this Examiner on January 05, 2009 to indicate that his client will submit the decision of the EP pertaining to a protest of the issued parent PCT application. There are two issues with the above decision pertaining to prosecution of an application:

a) application which has been patented;

and

b) application which has not been patented.

If the application has been patented, the above issues will be not considered by the courts but this application is under (b) which is still in prosecution. Applicant will be required to meet the above requirements.

A. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-98 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention with respect to the following:

a) What is the scope of the expression each term in the expression "gelled culture medium" with respect to:

i) What is the scope of the term "gelled" :

a) with respect to the medium which scope of the medium does not specify the agent , component, or process that causes the "culture medium" to be gelled?

The term "gel" is a physical state of a compound or composition whereby as defined as either a liquid or solid depending upon the conditions as indicated in Wikipedia:

> "A **gel** (from the lat. *gelu*—freezing, cold, ice or *gelatus*—frozen, immobile) is a solid, jelly-like material that can have properties ranging from soft and weak to hard and tough. Gels are defined as a substantially dilute crosslinked system, which exhibits no flow when in the steady-state.[1] By weight, gels are mostly liquid, yet they behave like solids due to a three-dimensional crosslinked network within the liquid. It is the crosslinks within the fluid that give a gel its structure (hardness) and contribute to stickiness (tack)."

Vague and indefinite as to the scope of the term “gelled” since the specification indicates that agar is in the medium which medium contains a gelled composition. The physical state for a gel depends upon the amount of crosslinking which crosslinking can be an additive that crosslinks in a three dimensional direction the bonds e.g. difunctional polymers, or crosslinking of bonds by heat or evaporation.

ii) Vague and indefinite as to the components within the term “medium” for claims 17, 37, and the physical states for each process step in claims 17 and 37?

For Claims 17 and 37, it is considered to be vague and indefinite for the first process step which recites the following:

“an antibiotic added to the medium before the medium gels," - whereby the process step indicates that a "medium" is present which does not contain a gel and antibiotic is added to this medium to which the medium gels due to one of th” factors noted above (i), therefore, the process steps are vague and indefinite in scope and request clarification as to the scope as noted-

b) What is the scope of the concentration of the antibiotic pertaining to claims 17 and 37 to obtain the alleged stability which specification indicates only two of the four are capable and others do not have this property?

> “concentration of antibiotic in the medium according to the invention is preferably between 0.5 and 50 mg/l” ;
>
> “It should be noted that, among the antibiotics capable of forming part of the composition of a medium of the invention, some are capable of conferring certain properties on said medium. For example, c**efoxitin or cefmetazole confer a specific stability**, of at least 2 months, on said

medium. For example, a stability of at least 2 months has been observed for a medium in accordance with the invention prepared with cefoxitin at a concentration of 5 mg/l, added to the medium when the latter is at a temperature of 48°C. The stability of the medium in accordance with the invention has been brought to at least 5 months when said medium has been prepared with cefmetazole at a concentration of 2.5 mg/l, added to the medium when the latter is at a temperature of 48°C."

c) What is the scope of the nutrients in the culture?

d) What is the scope of the term "medium" in the expression "inoculating a medium" in claims 51 and 78 ? What are the components in the medium?

e) What is the scope of the term "detecting" in the expression "method of detecting" ?

f) What is the scope of the terms "inoculating" and the "medium" for the expression "inoculating a medium" ?

g) What is the scope of the expression "enriching phase"?

B. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-98 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for specific examples and processes, does not reasonably provide enablement for the broad claimed inventions commensurate in scope with the enabling specification. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and practice the invention commensurate in scope with these claims which includes the following:

a) Claim 17 and 51 for the expression "gelled" which includes processes or components not included in Claims 17 and 51. The specification does not teach the various product by process to prepare the claimed "gelled culture medium" which includes any number of processes as disclosed by Bochner U.S. 6,696,239.

b) Claims 17, 37, 51 and 78 are drawn to mediums comprising:

i) specific antibiotic compounds

ii) nutrients which scope is broader than the enabling disclosure.

iii) chromogenic agent;

which claims lack the specific agent or component for the culture medium .

c) The claims are broader than the enabling disclosure with respect to the components in i) "medium" , ii) “nutrients” and iii)the method for detecting the inoculated medium which claims are not commensurate in scope with the enabling disclosed specification.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art of record in the final rejection dated July 11, 2007 which are: Merlino et al (J Clin Microbiol, June 2000) ; Felten (J Clin Microbiol, Aug 2002) ; Boggs et al.,US 5,883,074, issued 16 March 1999 ; Dorso et al ., US 6,221,859, issued 24 April 2001); Hanaki et al., US 6,294,527, issued 25 Sep 2001 ; Rambach US 6,548,268, issued 15 Apr 2003, claiming priority to 9 Mar 2000; Carricajo et al (Eur J Clin Microbiol Infect Dis, 1999) and Pead et al (J Clin Pathol, 1977) all of the above further in view of Bochner et al., US 5,989,853; US 6,436,631 or US 6,696,239 or Gosnell et al U.S. 6,130,057.

The rejections of the claims are in light of the Supreme Court's recent decision in KSR International Co. v. Teleflex Inc (TFX) ., 82 USPQ2d 1385 (2007) based on the reasoning may still include the established Court of Appeals for the Federal Circuit standard that a claimed invention may be obvious if the examiner identifies a prior art teaching, suggestion, or motivation (TSM) to make it. However, the Guidelines explain that there is no requirement that patent examiners use the TSM approach in order to make a proper obviousness rejection. Furthermore, the Guidelines point out that even if the TSM approach cannot be applied to a claimed invention that invention may still be found obvious.

If there are any differences with respect to the claimed subject matter and the general knowledge pertaining to the art in the area, that these differences would have been prima facie obvious to one of ordinary skilled in the pertinent art whether it was based on the art of record or claimed subject would have obvious for the “combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results".

Further in view of "In U.S. v Adams...." Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the filed, the combination must do more than yield a predictable result."

Furthermore in view of “.Sakraida v. AG Pro Inc., …the conclusion that when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.”

The Supreme stated the following:

“When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, 35 .S.C. 103 bars its patentability. For the same reason, if a technique

has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve a similar devices I the same way, using the technique is obvious unless its actual application is beyond his or her skill."

The KSR Decision requires rationales to support the rejections under 35 USC 103.

The first issue is to analyze the Graham factual inquires as noted above for obviousness based of the prior art but the prior art is not limited to references but includes the basic knowledge and understanding of one skill in the pertinent art. Thus, the prior art alone or in combination does not have to teach or suggest or motivate one all of the limitations of the claimed limitations but there must be some rationale to explain these differences would have been obvious to one of ordinary skill in the art

Thus in accordance with KSR, the first issue are:

the factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The following prior art have been applied to all of the claims as noted for the following combination:

1 Merlino et al (J Clin Microbiol, June 2000) further in view of Felten (J Clin Microbiol, Aug 2002)

1 +a Merlino (J Clin Microbiol, June 2000) in view of Felten (J Clin Microbiol, Aug 2002) further in view of Boggs et al (US Patent # 5,883,074, issued 16 March 1999)

1 + b Merlino (J Clin Microbiol, June 2000) in view of Felten (J Clin Microbiol, Aug 2002) and in view of Dorso et al (US Patent # 6,221,859, issued 24 April 2001)

1 + c Merlino (J Clin Microbiol, June 2000) in view of Felten (J Clin Microbiol, Aug 2002) and inview of Hanaki (US Patent # 6,294,527, issued 25 Sep 2001) 10-12

1 + d Merlino et al (J Clin Microbiol, June 2000) in view of Felten et al (J Clin Microbiol, Aug 2002) and in view of Rambach (US Patent # 6,548,268, issued 15 Apr 2003, claiming priority to 9 Mar 2000)

1 + e Merlino et al (J Clin Microbiol, June 2000) in view of Felten (J Clin Microbiol, Aug 2002), in view of Carricajo et al (Eur J Clin Microbiol Infect Dis, 1999) and in view of Pead et al (J Clin Pathol, 1977)

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1. Merlino et al (J Clin Microbiol, June 2000) further in view of Felten (J Clin Microbiol, Aug 2002)

Merlino et al teach:

That methicillin-resistant Staphylococcus aureus can be detected by plating on the **solid medium CHROMagar**, which contains a proprietary mix of chromogenic agents that change color when metabolized by Staphylococcus aureus (see Introduction, p. 2378, for example). **CHROMagar meets the claimed "gelled culture medium"** They report that methicillin-resistant bacteria reliably grew on methicillin/oxacillin-doped plates, and that the color change afforded by the CHROMagar medium reliably discerned between S. aureus and non-staphylococcal species (see Results, p. 2380, col. 1, for example).

Merlino does not teach the use of the claimed cephalosporin antibiotics as selective agents in a chromogenic medium.

Felten et al teach:

That it is difficult on occasion to discern class IMRSA S. aureus from methicillin-susceptible S. aureus with standard oxacillin-resistance tests (see Abstract and

Introduction, for example). They report that testing a MRSA type 1 strain with cefoxitin or moxalactam led to 100% identification of MRSA type 1 strains as being methicillin-resistant, which is an improvement over the reliability of oxacillin testing, as taught be Merlino et al (see Felten et al, p. 2768, Table 1 and Results). In particular, Felten et al teach that antibiotic susceptibility tests can be carried out in medium containing no salt or 2% salt (see p. 2767, col. 1, first paragraph for example). There is no mention of adding salt in medium containing moxalactam (see p. 2767, col. 2, sections (ii) to (iv), for example). **Moxalactam,** for example, was added to MHA medium before solidification at a concentration of 0.5 to 32 mg/L (see p. 2767, col. 2, section (iv).

Moxalactam is one of the antibiotics of claim 17.

A person of ordinary skill in the art at the time the invention was made would have been motivated to test MRSA resistance among S. aureus strains in a method., taught by Merlino et al using antibiotic resistance testing taught by Felten et al, because Merlino et al teach that one can distinguish reliably distinguish S. aureus from other strains of Staphylococcus **using a chromogenic reagent**, and Felten et al teach that one can more reliably detect low-level methicillin resistance using later generation cephalosporins **like cefoxitin and moxalactam , which antibiotics are within the scope of claim 17**.

Hence, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to test for methicillin resistant S. aureus strains by testing antibiotic resistance with moxalactam or cefoxitin, and ensure proper species

recognition with a chromogenic reagent when attempting to characterize clinical bacterial isolates.

1 + (a) FURTHER IN VIEW OF

Boggs et al., US 5,883,074 that teach:

MRSA S. aureus develop resistance to numerous antibiotics (see Summary of the Invention, coil 1 line 48 to col 2 line 40, for example). Boggs et al teach that one must selectively grow MRSA S. aureus by including an antibiotic; this antibiotic can be cefamandole, cefoxitin, or cefotetan (see col. 4 line 56 to col. 5 line 13; see col. 6, lines 13-25, for example).

A person of ordinary skill in the art at the time the invention was made would have been motivated to include cefamandole, cefoxitin, or cefotetan because Boggs et al teach that MRSA S. aureus are often selectively resistant to these drugs.
Hence, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to test for MRSA resistance in S. aureus using a S. aureus-selective chromogenic medium and cefamandole, cefoxitin, or cefotetan as selective antibiotics.

I. **1 + (b)** FURTHER IN VIEW OF

Dorso et al., US 6,221,859 teach:

A method of treating antibiotic resistant S. aureus, among other types of pathogenic bacteria (see Abstract, see Summary of the Invention, col. 1 line 59 to col. 2, line5 for example). They teach that **cefmetazole** is among the antibiotics that are losing efficacy against pathogenic bacteria, and must be combined with other compounds to

enhance treatment .(see col. 8, line 63 to col. 9, line 10, for example).

A person of ordinary skill in the art at the time the invention was made would have been motivated to include cefmetazole in a selective medium for detecting resistant S. aureus, because Dorso et al teach that cefmetazole is a compound that is subject to bacterial resistance, and Felten et al and Merlino et al teach a method of detecting S. aureus with resistance to a given antibiotic.

Hence, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to test S. aureus resistance against cefmetazole by **culturing on a medium containing cefmetazole and a chromogenic reagent.**

1 + (c) FURTHER IN VIEW OF
Hanaki et al., US P 6,294,527 teaches:

The use of flomoxef-doped plates as a control for testing other compounds against S. aureus bacteria. Use of **flomoxef** as a control distinctly shows its use for characterizing **MRSA S. aureus** versus non-resistant S. aureus. Flomoxef has no effectiveness against MRSA bacteria, but is extremely effective against non-resistant bacteria (see col. 11 line 52 to col. 12 line 35; see Table 1, col. 12, as examples).

A person of ordinary skill in the art at the time the invention was made would have been motivated to include flomoxef in a selective medium for detecting resistant S. aureus, because Hanaki et al teach that flomoxef is a compound that is subject to bacterial resistance, and Felten et al and Merlino et al teach a method of detecting S. aureus with resistance to a given antibiotic

Hence, for **claims drawn to Claims 37 and dependent claims and method of detecting MRSA claims 52-98,** it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to test whether S. aureus has MRSA characteristics by culturing on a medium containing flomoxef and a chromogenic reagent.

1 + (d) FURTHER IN VIEW OF

Rambach US 6,548,268 .

The combination of 1 references do not expressly teach the use of 5-bromo-4-chloro- 3-indoxyl glucoside, 5-bromo-6-chloro-3-indoxyl phosphate, or 5-bromo-4-chloro-3- ' indoxyl glucuronide as chromogenic reagents.

However, Rambach teaches that these reagents are effective chromogenic reagents for detecting S. aureus. Rambach teaches that each of the above chromogenic dyes can be used to detect growth of S. aureus, which generates a different color in the presence of the substrate than other Staphylococcus species in particular, and other bacterial species generally (see column 2, lines 12-17; see column 2 lines 32-39, as examples).

Additionally Rambach expressly endorses adding two or all three chromogenic substrates together for optimal detection of S. aureus, see lines 32-39. Specifically, Rambach teaches that indoxyl phosphate or glucoside should be used as a first chromogen; the selectivity is enhanced if indoxyl glucuronide is added as well (see col. 2, lines 12-39). Additionally Rambach teaches that indoxyl glucoside can be included. These chromogens can be included at a concentration of 0.05 g/l (see col. 2, lines 55-60, for example).

A person of ordinary skill in the art at the time the invention was made would have been motivated to use the chromogenic substrates taught by Rambach et al in a method of detecting MRSA S. aureus taught by Merlino et al and Felten et al, because Merlino et al teach that chromogenic substrates can be used to detect MRSA S. aureus, Felten et al teach that cefoxitin and moxalactam can be used to detect low-resistance S. aureus, and because Rambach teaches that S. aureus can be specifically identified by growing on the chromogenic substrates.

Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to identify MRSA S. aureus as taught by Merlino et al and Felten et al using the chromogenic substrates taught by Rambach which renders all claims pertaining to chromatogenic agent which includes all claims 17-98.

Thus, the combinations renders all claims pertaining to a chromatogenic agent prima facie obvious pertaining to an agent which can detect MRSA as the detecting agent for all claims 17-98.

1 + (e) FURTHER IN VIEW OF

Carricajo et al (Eur J Clin Microbiol Infect Dis, 1999) and Pead et al (J Clin Pathol, 1977) which teach:

Carricajo et al teach that one can test clinical urine specimens by direct inoculation onto chromogenic media. Specifically, they teach that types of staphylococci can be differentiated by inoculating small samples of urine directly onto CHROMagar with an inoculating loop (see Materials and Methods, p. 797-8, for example).

Pead et al teach that in a survey of staphylococcus as determined from urine samples, S. aureus is responsible for 16% of infections (see Abstract, p. 427).

A person of ordinary skill in the art at the time the invention was made would have been motivated to test clinical samples for the presence of S. aureus by direct inoculation of clinical samples onto a chromogenic medium because C**arricajo et al teach that one can directly inoculate urine onto CHROMagar medium** and observe development of staphylococcus specimens, and Pead et al teach that S. aureus infections are a substantial fraction of staphylococcus infections as determined by urine samples.

Hence, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to inoculate chromogenic media directly from clinical samples in a method of testing for the **presence of S. aureus.**

II. Rejection of all the above reference combinations further in view of the teachings of the combination of

Bochner U.S. 6,696,239 discloses the following:

Bochner teaches the use of a gelled medium as recited:

> "The situation is particularly desperate in the area of nosocomial infections, as infections with methicillin-resistant Staphylococcus aureus (MRSA)
>
> It is contemplated that the kit may include reagents such as BACs, carbon sources, nitrogen sources, chromogenic substrates, diluents and other aqueous solutions, as well as specialized microplates (e.g., GN, GP, ES, YT, SF-N, SF-P. and other MicroPlates.TM., obtained from Biolog), inoculants, miniaturized testing cards (e.g., MicroCards.TM.), and plated **agar media**.
>
> As used herein the term "gel-initiating agent" refers to any compound or element which results in the formation of a gel matrix, following exposure of a gelling agent to certain conditions or reagents. It is intended that "gel-initiating agent" encompass such

reagents as cations (e.g., Ca.sup.2+, Mg.sup.2+, and K.sup.+). Until the gelling agent contacts at least one gel-initiating agent, any suspension containing the gelling agent remains "ungelled" (i.e., there is no thickening, increased viscosity, nor hardening of the suspension).

After contact, the suspension will become more viscous the invention **provides numerous advances and advantages** over the prior art, including: (1) much greater safety, as there is no spillage, nor aerosolization of cells, mycelia, nor spores, while performing or inoculating test wells; (2) faster biochemical reactions are produced, giving final results hours or days earlier than commonly used methods; (3) more positive biochemical or phenotypic reactions are obtained, giving a truer picture of the microorganisms' metabolic characteristics; (4) darker, more clear-cut biochemical reactions and color changes are obtained; (5) more uniform color and/or turbidity are obtained, as the cells, mycelia, and/or spores do not settle and clump together at the bottom of the wells, nor do they adhere to the sides of the wells; (6) the reactions are much easier to observe visually or with optical instruments (e.g., the Biolog MicroStation Reader.TM.); and (7) the overall process for performing multiple tests is extremely simple and efficient, requiring very little labor on the part of the biologist. All of these advantages enhance the speed and accuracy of scoring test results in studies to perform comparative phenotype analysis for the assessment of BACs using any cell type, including microbial strains. and may or may not form a rigid gel (i.e., contact will produce "gelling")."

Bochner..U.S. 5,989,853

Bochner teaches the advantages of utilizing a gel matrix for the testing of microorganisms which includes S. aureus:

> The present invention relates to growing and testing microorganisms in a multitest format which utilizes a gel forming matrix for the rapid screening of clinical and environmental cultures. The present invention is suited for the characterization of commonly encountered microorganisms (e.g., E. coli, S. aureus, etc.), as well as commercially and industrially important organisms from various and diverse environments (e.g., the present invention is particularly suited for the growth and characterization of the actinomycetes and fungi).

Gosnell et al U.S. 6,130,057

Gosnell et al teaches the following:

> "The following bacteria were evaluated: ....Staphylococcus aureus .....
>
> "Culture media for microorganisms containing blood or hemin, particularly Trypticase Soy Agar with blood, and chocolate agar, are combined with known chromogenic substrates to produce chromogenic media. Methods for preparing these chromogenic media include adding chromogenic substrates to the surface of previously prepared media, or incorporating the chromogenic substrate into the media as it is prepared. Methods for distinguishing microorganisms in a sample using these culture media are also described."
>
> Identification and differentiation of different species of yeasts can be accomplished using CHROMagar Candida plates available from CHROMagar Company, Paris, France. Yeasts from clinical samples grown on these plates are identified by variant colors and morphology. See e.g. A. P. Koehler, et al. J. Clin. Microbiol., 37, pp. 422-26 (1999). The CHROMagar medium is composed of 10 g peptone, 20 g glucose, 15 g agar, 0.5 g chloramphenicol, per liter, and a "chromogenic mixture," whose components are maintained in secrecy by the manufacturer.

Gosnell et al teaches the combination of suitable chromogenic substrates as noted on columns 6 and 7 which includes the chromogenic agent of claims 19-20, see Example 1, line 63; claims 21-24, see Example 1, line 54.

Thus, the above combination teaches the advantages of employing a gel containing medium which includes an agar containing gel for the identification of MRSA.

In view of the above disclosures and in view of the requirements of KSR whereby the prior art alone or in combination as submitted above all of the claimed limitations as combined render the claimed inventions prima facie

obvious to one of ordinary skilled in the art. The alleged differences based on the collective art as submitted renders the claimed invention prima facie obvious to one of ordinary skilled in the area for preparing a gelled culture medium containing a chromogenic agent which includes any one of the four claimed antibiotics and to employ the mixture to detect MRSA based on the above collective art as submitted based on the combinations above which may have differences which differences if there are any would have been obvious absent a showing that the difference is a patentable difference. Argued limitations for claimed subject matter as well as alleged differences in the specification have not been shown to be patentable differences over the art of record.

Argued limitations for the claims which argued limitations not in the claims as well as the specifications contain alleged differences over art without having a direct comparison over the art carries little weight that the differences or arguments are patentable differences which includes:

a) solid agar containing medium---

in view of the claims read on any agar containing medium which contains any agar since agar is a gel containing substance and the physical state of agar can be free flowing, mobile, jelly like hydrogel or a solid gel depending upon the extent of crosslinking of the bonds;

b) argued limitations for the antibiotic which includes stability based on the mixing step which argued limitations over the art the record does not show a direct comparison for the antibiotic “added to the medium before the medium gels" especially since if the medium contains a gel such as agar;

c) the method of detecting which includes inoculating a medium which does not require any specific medium as well as specific method for independent claims 52 and 78 pertaining to sample directly obtained from a patient.

All argued alleged limitations must be commensurate in scope with the claims.

Furthermore, the Guidelines point out that even if the TSM approach cannot be applied to a claimed invention that invention may still be found obvious as for this application absent patentable subject matter for claims that meet the requirements of 35 USC 112 first and second paragraph and 35 USC 103 .

5. **No claim is allowed.**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HERBERT J. LILLING whose telephone number is 571-272-0918. The examiner can normally be reached on WORK AT HOME MAXIFLEX.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JON WEBER can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit **1657**
February 09, 2009

/HERBERT J LILLING/
Primary Examiner Art Unit 1657